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From Instructor-Driven Teaching to Student-Focused Learning – a Personal Narrative

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From Instructor-Driven Teaching to Student-Focused Learning – a Personal Narrative

Omofolakanmi Elizabeth Olagbemi

STEM Instructional Program 2019-20

Introduction

My approach to teaching for several years was to explain the relevant material to my students, and then follow up with questions to confirm understanding. This is the approach that I was exposed to as a student and so I never questioned it. If my performance in a class was not up to par, then there must have been some deficiencies in preparation on my part. I never stopped to consider that perhaps the employment of a different teaching strategy by the instructor might have helped me obtain a better grade. Of course, this is mere speculation – it may be that my performance in this hypothetical course might not have improved significantly even with a teaching approach designed to better facilitate learning in one's students. Or perhaps it might have.

Background – Prior to STEM-Instructional Program

My earliest teaching experiences at WMU were as a Graduate Teaching Assistant and entailed teaching Computer Science (CS) labs for one core undergraduate CS courses (CS1 – Introduction to Programming in Java). After some semesters, I taught labs for the more advanced CS II, and later still, taught the CS II lectures (as opposed to the labs).

Summary of Teaching Experience and Strategies Employed:

- A mandatory general training and orientation was organized for all Teaching Assistants regardless of the courses they would be teaching.
- Some guidance was provided by instructors of record as well as more experienced teaching assistants.
- Observing more experienced teaching assistants while they were teaching was extremely helpful.
- Topics taught were pre-determined by the instructor of record and flowed from learning outcomes.
- Student progress was assessed through quizzes, class exercises and assignments.
- My teaching approach:
  - Review lecture material with students,
  - Work through solutions to programming problems,
  - Assign quizzes and/or class exercises,
  - Review assignments,
  - Request student feedback (at the end of the semester)

Why the STEM Instructional Program?

Graduate Teaching Assistant Orientation:

- Attending this training session prior to teaching at WMU was extremely helpful in providing the initial tools needed to teach. But after teaching for several semesters, I felt I needed to update my skill set to make my classes more engaging and improve attendance.

Graduate Student Teaching Intensive Program (GSTI):

- During this program, I was introduced to the concept of Active Learning and, in addition to other points, learned the importance of soliciting feedback from students multiple times - during the semester and at the end of the course.

But, I still had an unanswered question: how could I apply active learning strategies to classes in the STEM field, especially in a class that teaches programming languages?

Some Lessons Learned from STEM Instructional Program

- Students and instructor indicate their expectations of each other, and this is formulated into a contract made available to all class participants, including the instructor (forms guidelines for acceptable classroom conduct).

- Show cognitive empathy
  - Like me, my students face challenges from time to time that could impact their work.

- Incorporate activity-based learning
  - "Muddiest point" discussions and "think-pair-share" activities

- Be approachable
  - Let students see me as a human being like themselves who:
    - experiences challenges
    - makes mistakes
    - is open to learning from students

More Lessons Learned

- Think "universal design"

Design classes so they are readily accessible to all students in the class, regardless of any accommodations some might have.

- Cultural humility and inclusivity

- I should be as much as possible, acknowledge all cultures represented in my classroom in ways as simple as using names from those cultures in illustrations.

- Nurture an environment in which all students feel welcome regardless of temperament, abilities, experiences or any other defining characteristic.

- Connect Learning Outcomes to course material

For each new topic taught in class, highlight the related learning outcome(s).

Bringing the STEM Instructional Program to the Classroom

In the two semesters following the STEM Instructional Program (Fall 2019 and Spring 2020), I applied some of the strategies I learned from the STEM Instructional Program. Details of some of these along with corresponding comments from course evaluations are highlighted in the table below.

<table>
<thead>
<tr>
<th>Strategies Employed</th>
<th>From Course Evaluations (Fall ’19 &amp; Spring ’20)</th>
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<tbody>
<tr>
<td>Activity-based Learning: the &quot;think-pair-share&quot; and &quot;muddiest point&quot; approaches have been employed.</td>
<td>&quot;Many opportunities to ask questions in class - Best of topics covered! Fun projects and labs - Not telling students the answers, and they learned/figured it out, etc. Lots of room for creativity.&quot;</td>
</tr>
<tr>
<td>&quot;Students who missed classes feel welcome and respected in the class. This calls for humility and a willingness to identify and examine one's implicit biases and take necessary steps to ensure no student feels discriminated against or disrespected in any way.&quot;</td>
<td></td>
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</tbody>
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Learning about strategies to improve one’s effectiveness as an instructor is a very important aspect of developing oneself, but perhaps equally important is making out time to periodically reflect on the strategies utilized by considering the visible results of applying those strategies as well as feedback from students, be it in one-minute essays at the end of a class or in more formal course evaluations. Being able to identify what was or wasn’t effective in the classroom provides valuable feedback that could be used to enhance both current and future students’ experiences in the classroom.

It is my hope to be able to incorporate all these, in addition to those already implemented, in my teaching strategies, adopting a practice of continuous improvement such that my classroom is a place where all, myself included, can learn and enjoy learning.

Conclusion & Next Steps

Setting the right tone for a class at the beginning can be instrumental in ensuring a pleasant experience for all students, while also highlighting what is expected of all participants (including the instructor) early on.

Also important, not only at the beginning of a course but throughout the semester, is reviewing the learning outcomes that should have been achieved by the end of the course. The periodic concern of class material to learning outcomes shows the relevance of the topics covered.

In addition, with the increased emphasis on diversity and inclusion and a resulting increase in the diversity of students in the classroom, there is the need to ensure that all students feel welcome and respected in the class. This calls for cultural humility and a willingness to identify and examine one’s implicit biases and take necessary steps to ensure no student feels discriminated against or disrespected in any way.

Works cited

1. The Active Learning Handbook – Engagement Techniques that Work; Philip Preville; topchat.com

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